vast region which is occupied by the Eskimo the degree of civilisation is practically the same, that civilisation being of a rude nature. Speaking of their relations to other nations, the Professor remarked on the broad belt of enmity, a debatable ground, that exists between the Eskimo and the Red Indian, between whom there is no friendship. But, he said, there is a likeness between the tongues of the two races, though this does not by any means prove any affinity between them. Coming to the question of the date of the settlement of the Eskimo in Greenland, he said that Markham's assumption that they crossed by Behring Straits from Asia, being driven forth by Tartar hordes, was purely assumption, and that this opinion was not shared by Mr. Dall or himself. He held that there was proof that the Eskimo, in the year 1000, ranged farther southward than where we are now. There was reason to believe this, he said, by archæological proofs, and he maintained that the Eskimo were a retreating race, being continually driven farther north by stronger and more powerful tribes, such as the Red Indians, and that if the Arctic regions had been less inclement (this being safety to this people), before this time the Eskimo would have been exterminated by the Red Indians. Even in Asia, he said, these were a retreating race, pushed farther to north and east by pursuing tribes. The lecturer remarked on the word "kayak" or boat, used by the Eskimo, and its likeness to the word (caique) used for the same object by the Turkish people, and quoted his friend Dr. Isaac Taylor, who had traced the history of this word. He explained the etymology of this word in an interesting manner, and caused a little laughter by remarking that the boat was used by the Eskimo to carry their "wives, children, and other chattels." He said, in concluding the first portion of his inquiry, that, from proofs established, the Eskimo formerly lived in a wide range of country far more south than their present habitation, and that they were driven to the north by more powerful nations. Speaking of the range of the Eskimo in time, Prof. Dawkins made some very interesting remarks on the habits and implements of the cave-dwellers in Europe. Illustrating the artistic power of these dwellers, the lecturer pointed out an enlarged sketch of a reindeer, drawn on bone, and found in a cave in Switzerland. This sketch, he said, was perfectly natural, and was admirably done by the skin-clad artist whom he pictured. He also showed the picture of an elephant, with trunk uplifted, and mouth opened, found in a cave in Auvergne. The habits of life of these cave-dwellers in Europe, he said, were the same as those of the Eskimo, and those only of the Eskimo; their implements were the same, and he would connect them in many ways, such as neglect of the rites of sepulture, for instance. The cave-dwellers, he maintained, were in every respect similar to the Eskimo, and this bore out his theory that the latter people are a retreating race in Europe, and once lived far southward of their present range. With regard to the time at which these cave-dwellers existed, and when the Eskimo came into America, the Professor said that the former dwelt in Europe in what is known as the "Pliocene" period. He said that in his opinion the Eskimo represented as a race the ancient cave-dwellers of Europe, and as such he regarded them with interest and respect. He thought that the difficulty of the question of migration was partly disposed of by the fact that the water of Behring Straits was extremely shallow, and in concluding a most interesting address, he recapitulated the proofs that he had brought forward in order to support his assertions.

Mr. F. W. Putnam, Curator of the Peabody Museum of American Archæology and Ethnology at Harvard University, gave a short notice of *The Recent Explorations by Dr. C. L. Metz and himself in the Little Nicàmi Valley, Ohio.* The particular mounds to the singular structure of which Mr. Putnam confined his remarks he has called the Turner group. The mounds, out of one of which he had taken seventy-three skeletons, were burial mounds of the ancient Indians, and some seem to have been erected for an entirely different purpose. By means of rough sketches, Mr. Putnam illustrated the formation of these mounds. One of these seemed, from the fact that everything in it had been burnt, to be erected for a sacrificial purpose. A mass of a peculiar substance, like ashes, but which was not ashes, was found in the mound. What this substance was the lecturer did not know, but it was now being analysed by chemists. He described in detail the interior of the mounds which had been explored, noticing the covered pits which were found in them, some of these containing ashes and animal bones. A mixture of iron and gravel, forming a solid cement, was a curious feature in the mound, as the presence of the iron could not be accounted for. He said that previous explorations of the mounds had been very superficial, and had led to misrepresentation on the subject, but he had found that the removal of every inch of earth was necessary in order thoroughly to explore them, and this was done. In one mound two complete skeletons were found, in the midst of ashes. Round these were fragments of three other skeletons, and sixteen skulls, six of these latter having holes bored in them, evidently with stone drills. Scratches on the skulls showed how the flesh had been scraped away with a stone knife, and the skulls had evidently been placed round the skeletons for the purpose of ornament. Mr. Putnam said that in many respects these mounds were totally different from any that had yet been discovered and explored in this country. He showed photographs to illustrate his subject, amongst them being a remarkable specimen of art in the shape of a representation of a human face cut out of a sheet of mica. This, he said, would favourably compare with Dr. Dawkins' sketch of an elephant's head drawn by a cave-dweller of Europe. The speaker also noticed many other artistic objects, such as bracelets of copper covered with native silver, and peculiar and large earrings of the same material. In other cases he had found objects covered with native meteoric iron and with native gold; also terra-cotta images of small size, most of them much broken by the action of the fire into which they had been thrown. He remarked upon the likeness in many respects that the ornamentation of these objects bore to the work of the Egyptians.

A paper by Dr. Paul Topinard was read, entitled *Instructions anthropométriques élémentaire.* The author described various instruments that had been devised by him for enabling inexperienced travellers to take measurements of the human body with moderate accuracy.

Mr. Jeremiah Curtin read a paper *On Myths of the Modoc Indians.* He said that there were between three and four hundred Modocs, most of whom were in the Indian Territory and Southern Oregon. He proceeded to read a "myth" of these people which related to a personage called the Blue Woman, who was supposed by the Indians to be the second person in the Universe. This story, which was something like a fairy tale, was taken down in the original language by the speaker himself. He described the hardships through which the young Modocs went in order to fit themselves for manhood, such as climbing a mountain in order to reach an almost inaccessible pond, in which they swam.

SCIENTIFIC SERIALS

Journal of the Russian Chemical and Physical Society, vol. xvi. fasc. 6.—On the succession of reactions, by M. Lvoff, being an introduction into a series of researches undertaken by the author and several students, in order to disclose the mechanism of polymerisation.—On the action of chlorine on butylenes, by M. Chechoukoff.—On constants of chemical affinity, by W. Ostwald. The author, who maintains the views of Berthollet, further elaborated by Guldberg and Waage, considers that there is, for each body, a certain numerical coefficient of its chemical affinities as characteristic for the body as its atomic weight; and in addition to his former works, already published in the *Journal für pract. Chemie,* he publishes now a preliminary list of "constants of chemical reactions."—On glycidic acids, by P. Melikoff.—On the displacement of chlorine by bromine, and an explanation of the reactions which are accompanied by a disengagement of heat, by A. Potylitzin. The substitution of chlorine by bromine, in seeming contradiction with the law of maximum work, and which Berthelot has endeavoured to explain by the formation of chloric bromine and bromides of metals, could be explained by admitting that the reaction is going on with the heat received from the surrounding medium. This important inquiry, pursued by the author for several years past, brings him to interesting conclusions on thermo-chemistry.—On asarone, by MM. Rizza and A. Butleroff, being an inquiry into the properties of the camphor received from *Asarum europæum.*—On a new apparatus for determining specific heat, by W. Loughinin. It is a modification of the apparatus of Neumann.—On the reduction of isodinitrobenzyl, by P. Goloubeff.—On the preparation of animal colouring matters from albuminoid substances, by W. Mikhailoff.—On azophenylacetic acid, note by M. Wittenberg.—On the solution of lithium carbonate in water, note by J. Bevad.—On a hygienic photometer for schools, by Prof.

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Petroushevky. It allows the amount of light received by books, paper, &c., on the desks of scholars, to be rapidly and accurately measured.—On the volume of a liquid considered as a function of temperature under a constant pressure, by K. Jouk. Diethylamine and ethyl chloride both agree with Prof. Avenarius's formula: $v = a + b \log (\tau - t)$.—On the relation between pressure and the density of rarefied gases; preliminary communication by K. Kraevitch.—Notes on the structure of the atmosphere, by MM. Stankevitch and Rogovsky.

Annalen der Physik und Chemie, No. 7, June 15.—On the electric discharge in gases, by O. Lehmann (2 sheets of figures).—Contribution to the investigation of the origin of thermo-electric streams in a continuous homogeneous conductor, by Rudolph Overbeck (10 figures).—On the changes which the molecular structure of iron undergoes by heating and cooling, by Carl Frounne (2 tables).—On the appearance of electricity with the development of gases, by W. Hankel.—On a constant battery for electrical measurements, by W. von Beetz.—On the position of the pole, the induction and temperature coefficient of a magnet, and on the determination of the magnetic moment by bifilar suspension, by F. Kohlrausch.—On the dispersive power of a diamond, by A. Schrauf.—Researches on radiant heat, by Heinr. Schneebeli.—On the construction of Bohnenberger's reversible pendulum for the determination of the length of a pendulum for observing the period of oscillation in relation to a given length of mass, by Wilhelm Weber.—On the equilibriums of floating elastic plates, by H. Hertz.—The electricity of flame; reply by J. Kollert.—On a new position for the measuring wire in the Wheatstone-Kirchoff bridge combination, by Hugo Meyer (2 figures).—Wheatstone's rheostat and mercury contact, by J. Bodynski (2 figures).

Journal de Physique théorique et appliquée, July.—On the analytical expression of absolute temperature and Carnot's function, by G. Lippmann.—On the electro-chemical equivalent of silver, by M. Mascart.—On the phenomenon of crystalline overheating of sulphur and the rapidity of transformation of octahedral to prismatic sulphur, by D. Gernez.—Study of the distribution of potential in conductors of two or three dimensions traversed by continuous currents, by A. Chervet.—On an electrostatic standard of potential, by Messrs. Crova and Garbe.—On the variation of the capillary constant at water-ether and water-carbon bisulphide surfaces under the action of an electromotive force, by M. Kronchkoll and Lord Rayleigh.—On the electro-chemical equivalent of silver, and on the absolute electromotive force of Clark cells, by B. C. Damien.

SOCIETIES AND ACADEMIES

PARIS

Academy of Sciences, September 22.—M. Rolland, President, in the chair.—On algebraic equations: part third, on irrational equations, by M. de Jonquières. The author arrives at the somewhat unexpected conclusion that all algebraic equations, whether rational or not, which belong to the same "species," possess the same maximum number of real roots, whatever be their respective degrees.—Observations on the corona now visible round the sun; variations in its form and colour; a method of increasing its luminosity; polariscopic observations; polarimetric and photometric observations, by M. A. Cornu. The author is still disposed to connect this phenomenon with the Krakatoa eruption. The facts adduced are regarded as numerous enough to support the natural hypothesis of a cloud of particles with a nearly constant mean diameter, projected by the volcano and held in suspension in the higher regions of the atmosphere.—On the general evolution of the vegetable functions in annual plants: the Amaranthaceæ, by MM. Berthelot and André.—On the movement of Hyperion, by Prof. S. Newcomb. The author concludes that all the conjunctions of Hyperion with Titan take place near the aposaturn of the latter satellite. The point of conjunction oscillates about 180° on either side of the aposaturn during the period of revolution of the perisaturn of Hyperion in relation to that of Titan.—On the completion of the new method for resolving the most general linear equation into quaternions, by Prof. Sylvester.—Remarks on the third instalment of the new topographical map of Algeria presented to the Academy by Col. Perrier. This section consists of six sheets, comprising Miliana (province of Algiers), Saint Denis-du-Sig (province of Oran), Herbillon, Cap-de-Fer, Cap-de-Garde, Bugeaud (province of Constantine). The surveys are executed on a scale of 1 : 40,000, and the map, engraved on zinc, is issued at the scale of 1 : 50,000. Each sheet comprises seven plates, the relief being figured geometrically by equidistant curves of 10 m. in 10 m., and the plastic disposition of the surface being obtained by means of a dubbed drawing with lithographic crayon, based on the zenithal light and heightened by a slight touch of oblique light. The map marks a great improvement in the cartographic art.—On a development in a continuous fraction, by M. Stieltjes.—Note on the antiseptic properties of the sulphuret of carbon, by M. Ckiandi-Bey. From numerous experiments carried on for several years, the author finds that this sulphuret, which is soluble in water, arrests all fermentation, kills all microbes, is a most powerful antiseptic, and is, moreover, endowed with considerable penetrative power. Hence he strongly recommends it as a most efficacious remedy for cholera, typhus, diptheria, phthisis, and all diseases traceable to living germs.—Contributions to the study of the Cretaceous flora of the west of France, by M. L. Crié.—The Perpetual Secretary announced to the Academy that the International Committee of Weights and Measures representing the high contracting parties to the Convention for the Metre signed at Paris on May 20, 1875, has received the adhesion of England, which had hitherto taken no part in the Convention. With the further accession of Roumania and Servia the Committee now represents an aggregate population of 421,440,396, distributed over Germany, England, Austria, Hungary, Belgium, the Argentine Republic, Denmark, Spain, the United States, France, Italy, Peru, Portugal, Roumania, Russia, Servia, Sweden, Norway, Switzerland, Turkey, and Venezuela.—The photolithographic facsimile of a letter addressed by Gauss to Olbers on September 5, 1805, was presented to the Academy by Prince Boncompagni.

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